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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,786	05/11/2001	V.S. Meenakshi Sundaram	016499-883	5196

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EXAMINER	
ALVO, MARC S	
ART UNIT	PAPER NUMBER
1731	4

DATE MAILED: 11/28/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

MF

Office Action Summary	Application No.	Applicant(s)	
	09/852,786	SUNDARAM et al	
	Examiner	Art Unit	
	Steve Alvo	1731	

-- The MAILING DATE of this communication appears on the c ver sheet with the correspondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other: .

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 5-10 and 13-21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over CANADIAN PATENT APPLICATION 2,078,276.

See CANADIAN PATENT APPLICATION 2,078,276, See Page 10, Lines 12-20 for treating low consistency pulp, especially, lines 17-20; See Page 19, Lines 19-21, for using a high shear mixer; See Page 11, lines 18-36 and page 19 lines 25-29 for using a gas containing 10-20% ozone gas produced by adding oxygen to an ozone generator and using the ozone containing gas at 5-6 kg/ton pulp at a pressure of 20-60 psig for a time in the order of 1 minute (60 seconds), and see Figures for ozone destruction units, (20, 74 and/or 76). The process of CANADIAN Patent, as evidenced by the claims and Drawings always includes mixing and the only mixer disclosed by the CANADIAN Patent is a high shear mixer (page 19, lines 19-21). The low

consistency embodiment of the CANADIAN Patent would include the mixing of the process, e.g. the high shear mixing. See Figures for pulp retention tubes (42, 80 and/or 90). It is noted that the terms "dispersed" and "low consistency" can not be given probative weight in the apparatus claims as they are not further defining the apparatus structure. See CANADIAN PATENT APPLICATION 2,078,276, page 11, lines 33-36 and Tables I and II for ozone partial pressure greater than 1.4 psi. Using PV=nRT the partial pressure would calculate over 1.4 psi. If this is not taught by CANADIAN PATENT APPLICATION 2,078,276 then such would have been obvious over CANADIAN PATENT APPLICATION 2,078,276.

Claims 1, 2, 5-10 and 13-21 are rejected under 35 U.S.C. 103(a) as obvious over CANADIAN PATENT APPLICATION 2,078,276 with or without SIXTA et al.

If for any reason the low consistency (1 to 5%) pulp of CANADIAN PATENT APPLICATION 2,078,276 is not thought to be mixed with ozone in the high shear mixer, then such would have been obvious to the routineer. Or SIXTA et al teaches mixing pulp at a consistency of 3-20% (column 3, lines 7-8), e.g. within the claimed range, with ozone using a high shear mixer (column 4, lines 38-39) prior to sending the pulp to a retention tube to ozone bleach the pulp. It would have been obvious to use the high shear mixer of CANADIAN PATENT APPLICATION 2,078,276 to mix the ozone into the low consistency pulp as such high shear mixing of pulp with ozone at 3-5% consistency is taught by SIXTA et al.

Claims 3, 4 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over CANADIAN PATENT APPLICATION 2,078,276 with or without SIXTA et al as applied to claim 1 above, and further in view of HORNSEY et al or WO 93/15264.

CANADIAN PATENT APPLICATION 2,078,276 (page 4) teaches that it is known to use other bleaching steps in the bleaching of pulp with ozone (Z), including chlorine dioxide (D). HORNSEY et al teaches that chorine dioxide-ozone-chorine dioxide-ozone (DZDZ) is a well known pulp bleaching sequence. Or WO 93/15264 teaches that an ozone bleaching stage can be preceded or followed by a chlorine dioxide bleaching stage (page 11) to inhibit the carbohydrate degradation reactions of ozone which are responsible for the strength loss of pulp. It would have been obvious that the ozone bleach stage of CANADIAN PATENT APPLICATION 2,078,276 could be one stage (Z) in the conventional multi-stage bleaching sequence (DZDZ) of HORNSEY et al. Or it would have been obvious to inhibit the carbohydrate degradation reactions of ozone in the process of CANADIAN PATENT APPLICATION 2,076,276 by preceding or following the ozone stage of CANADIAN PATENT APPLICATION 2,076,276 with a chlorine dioxide stage as taught by WO 93/15264.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over CANADIAN PATENT APPLICATION 2,078,276 with or without SIXTA et al as applied to claim 1 above, and further in view of CIRUCCI et al or UCHIDA et al.

It would have been obvious to produce the oxygen of CANADIAN PATENT APPLICATION 2,078,276 in a pressure swing absorption process as such is conventional in the art as taught by CIRUCCI et al (column 5, lines 29-35) or UCHIDA et al.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-10 and 13-24 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 and 13-21 of copending Application No. 09/559,993.

Although the conflicting claims are not identical, they are not patentably distinct from each other because they only differ in scope. It would have been obvious that the pressures of claim 10 of the 09/559,993 do not patentably distinguish over the claimed "greater than 1.4 psi".

Claims 11 and 12 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 and 13-21 of copending Application No. 09/559,993 in view of CIRUCCI et al or UCHIDA et al.

It would have been obvious to produce the oxygen of the claims of 09/559,993 in a pressure swing absorption process as such is conventional in the art as taught by CIRUCCI et al (column 5, lines 29-35) or UCHIDA et al.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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Any inquiry concerning this communication or earlier communications from the **primary examiner** should be directed to **Steve Alvo** whose telephone number is **(703) 308-2048**. The Examiner can normally be reached on Monday - Friday from **6:00 AM - 2:30 PM** (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Stanley Silverman, can be reached on 703-308-3837.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Group receptionist** whose telephone number is **(703) 308-0661**.

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MSA
November 18, 2001

STEVE ALVO
PRIMARY EXAMINER
ART UNIT 1731